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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,345	12/11/2006	Jyri Jarvenkyla	17085US	9623
23576 7590 07/08/2010 SHELDON MAK ROSE & ANDERSON PC 100 Corson Street Third Floor PASADENA, CA 91103-3842				
EXAMINER				
KASHNIKOW, ERIK				
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1782				
MAIL DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/597,345

**Applicant(s)**

JARVENKYLA, JYRI

**Examiner**

ERIK KASHNIKOV

**Art Unit**

1782

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 74, 76-81, 85-88, 90-92, 95-108 and 127 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 74, 76-81, 85-88, 90-92, 95-108 and 127 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/21/09 has been entered.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thornton*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 74-75 and 85-87 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 31-35 and 37 of copending Application No. 11/458,927. Although the conflicting claims are not identical, they are not patentably distinct from each other because the difference between the claims is that the instant application requires a contoured metal outer layer whereas the copending application only requires a metal layer, however, a contoured metal, as defined by applicant's is a layer conformed to fit a regular geometric curve in the axial direction. It would be obvious to one of ordinary skill in the art at the time of the invention that any layer of a pipe would be conformed as to fit a regular geometric curve in the axial direction of the pipe.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 74, 76-80, 85-88, and 90-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045) and Schmitz et al. (US 2002/0082352).

4. In regards to claims 74, 76, 77, 85, 88 and 90 Negri et al. teach a plastic pipe which consists of an inner layer of polyethylene or polypropylene, a middle layer of a metal, and an outer layer of polyethylene or polypropylene (page 2 line 36 to page 3 line 5 and page 3 lines 24-26). It is noted that figure 1 of Negri et al. show non contoured inner and outer surfaces. Negri et al. teach that the metal layer is an aluminum or copper layer (page 3 lines 1-5) and is deposited on the plastic layer by vapor deposition (page 3 lines 10-13). It would be obvious to one of ordinary skill in the art that a layer that is placed by vapor deposition would be a seamless layer. Negri et al. teach that the vapor layer is less than 1  $\mu\text{m}$  and preferably less than 0.1  $\mu\text{m}$  thick (page 3 lines 1-2). Negri et al. teach that the metal layer is a barrier layer, specifically mentioning oxygen (page 1 lines 5-20). As the barrier layer is made from the same material as the instant invention and in the same manner it must necessarily have the same barrier properties when it comes to water vapor.

5. In regards to claim 86, Examiner is treating it as a product by process claim, specifically regarding the term "formed by a method selected from the group consisting of...". It has been shown that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art,

the claim is unpatentable even though the prior product was made by a different process (MPEP 2113 and *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966). As such the metal layer attached to an inner layer of plastic as disclosed above meets the limitations of claim 86 as well.

IN regards to claim 87 Negri et al. teach that the plastic layer is smoothed before the metal layer is deposited thereon (page 3 lines 15-21). One of ordinary skill in the art would recognize that polishing is a known method for smoothing substrates, and is a method wherein no layer is added between the plastic inner layer and the deposited metal layer. It is noted that "nonpreferred disclosures can be used. A nonpreferred portion of a reference disclosure is just as significant as the preferred portion in assessing the patentability of claims." In re Nehrenberg, 280 F.2d 161, 126 USPQ 383 (CCPA 1960).

6. As stated above Negri et al. teach a multilayer pipe comprising an inner polyolefin layer and a metallic layer outside said polyolefin layer however they are silent regarding contours of said metal layer as well as the pendant polar functional groups.
7. In regards to claim 74 Guest teaches tubing which comprises a smooth inner and outer surface and a contoured inner surface (claim 1).
8. In regards to claims 91 and 92 Guest teaches that the contours of the inner layer are sinusoidal corrugations (Figure 1).
9. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Negri et al. with that of Guest because the invention of Guest offers greater flexibility without kinking (column 2 lines 13-14).

10. As stated above Negri et al. and Guest teach a multilayer pipe comprising an inner polyolefin layer and a metallic layer outside said polyolefin layer however they are silent regarding the pendant polar functional groups.

11. In regards to Claims 74, 78, 79, and 80 Schmitz et al. teach a plastic pipe (paragraph 0096). Schmitz et al. teach that the pipe is three layers and that the first layer comprises a polyolefin (claim 1). Schmitz et al. teach that the inner layer can comprise a polypropylene or a polyethylene (paragraph 0052). Schmitz teaches that the polyolefin layer may be combined (grafted) with maleic anhydride modified EPM to form a polar functional polyolefin (paragraph 0052 and 0086). Schmitz et al. teach that fillers may be added to the layers (paragraph 0087). These embodiments meet sections (i) and (iii) of Applicant's claim 1. As these materials are the same as Applicant's they would intrinsically be extrudable. In regards to the polar stabilizer, Schmitz et al. teach the inclusion of UV stabilizers, which Applicant's include in a list of their polar stabilizers (paragraph 0087).

12. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Negri et al. and Guest with that of Schmitz et al. because the invention of Schmitz et al. would offer adhesion between layers which remains intact even after prolonged exposure to aqueous matter of elevated temperatures (paragraph 0010).

13. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045) and Schmitz et al. (US 2002/0082352) as applied to claim 80 and in further view of Hibino (JP 59155010).

14. As stated Negri et al., Guest and Schmitz et al. teach a multilayer pipe with an inner layer comprising a polar functional polyethylene, however they are silent regarding the polar functional polyethylene being ethylene/glycidyl methacrylate.

15. Hibino et al. teach that it is known in the art at the time of the invention for inner layers of pipes used to convey water to have an inner layer which comprises ethylene/glycidyl methacrylate (ABS).

16. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Negri et al. Guest and Schmitz et al. with that of Hibino because the invention of Hibino offers the ability to seal joints completely without rupture of the lining tube (ABS).

17. Claims 95 and 96 rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045), Schmitz et al. (US 2002/0082352) and Matteodo (US 5,132,344).

18. As stated above Negri, Guest and Schmitz et al. teach multilayer pipes with functionalized polyolefins and an UV stabilizer however they are silent regarding specific UV stabilizers.

19. Matteodo teaches that sterically hindered amines are good UV stabilizers for polyethylene compositions (column 4 lines 40-43). And that these polyethylenes are good for pipe manufacture (column 5 lines 27-31).

20. In regards to claim 96 as the color, resistance to coloration effects, and stability of the pipe are variable(s) that can be modified, among others, by adjusting said thickness of the metal layer (col.4, lines 28-42), the thickness of the metal layer would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed thickness cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the thickness of the metal layer in Hansen et al. to obtain the desired balance between color, resistance to coloration effects, and stability (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

21. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Negri et al. Guest and Schmitz with that of Matteodo because the invention of Matteodo offers improved color and resistance to coloration effects (column 4 lines 29-35).

22. Claims 97-100 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045), Schmitz et al. (US 2002/0082352) and Bush et al. (US 5,416,142).
23. As stated above Negri, Guest and Schmitz et al. teach multilayer pipes with functionalized polyolefins and fillers they are silent regarding the types of fillers as well as their physical properties.
24. Bush et al. teach compositions for binding thermoplastic polymers (column 1 lines 19-25).
25. In regards to claim 97, 98 and 102 Bush et al. teach common fillers for these compositions are Talc, mica and calcium carbonate (column 14 lines 34-38).
26. In regards to claim 100 Bush et al. teach that the filler is present in amounts from 0-5% (column 14 line 18).
27. Also in regard to claims 99 Bush et al. teach that the particle size should be less than about 50 microns (column 14 lines 27-30).
28. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Negri et al, Guest and Schmitz with that of Bush et al. because Bush et al. offers a reduced cost and improved structural strength (column 14 lines 24-26).
29. Claims 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045), Schmitz et al. (US 2002/0082352) and Kawahara et al. (US 4,454,258).

30. As stated above Negri et al., Guest and Schmitz teach multilayer pipes with an inner layer comprising thermoplastics, fillers and polar functional groups, however they are silent regarding the use of fillers which have been coated with polar functional groups.

31. In regards to claim 101 Kawahara et al. teach thermoplastic compositions for use in dentistry. Kawahara et al. teach it is known to include polar coated inorganic fillers in a non polar thermoplastic material (claims 11 and 12).

32. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Negri et al. Schmitz et al. and Guest with that of Kawahara et al. because the invention of Schmitz et al. which offers prolonged adhesion even after contact with alcohol or aqueous media at elevated temperatures (paragraph 0010) would benefit from the intensified bonding properties offered by the invention of Kawahara et al. (column 5 lines 47-51).

33. Claims 103-105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045), Schmitz et al. (US 2002/0082352) and Alexandre et al. (US 6,465,543).

34. As stated above Negri et al, Guest and Schmitz et al. teach multilayer pipes with functionalized polyolefins and fillers they are silent regarding the types of fillers.

35. In regards to claim 103 Alexandre et al. teach polyolefins mixed with nanofillers (column 1 lines 63-67).

36. In regards to claim 104 Alexandre teaches using 1-10 vol% of nanofiller (column 3 lines 51-55).
37. In regards to claim 105 Alexandre et al. teach that the fillers are uniformly dispersed within the polymer (column 4 lines 50-55).
38. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Negri et al., Guest and Schmitz et al. with that of Alexandre et al. because the invention of Alexandre et al. offers polyolefins with enhanced physical properties (column 2 lines 40-45).
39. Claims 106-107 are rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045), Schmitz et al. (US 2002/0082352) and Colburn (US 3,721,597).
40. As stated above Schmitz et al. Negri et al. and Guest teach multilayer pipes with functionalized polyolefins and metal barrier layers but they are silent regarding the adhesive between the layers.
41. In regards to claim 106 Colburn teaches an adhesive layer which is between a metal layer and a thermoplastic layer (column 2, lines 38-45).
42. In regards to claims 107 Colburn teaches that the adhesive partially comprise unsaturated carboxylic acids (column 5 lines 24-26).
43. One of ordinary skill in the art at the time of the invention would be motivated to modify the inventions of Negri et al. Schmitz et al. and Guest with that of Colburn because the invention of Colburn offers a strong bond (column 1 lines 15-20).

44. Claims 108 and 127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Negri et al. (WO/02/01115) in view of Guest (EPO 0 793 045), Schmitz et al. (US 2002/0082352) and Hansen et al. (US 2002/007861).
45. As stated above Schmitz et al. Negri et al. and Guest teach multilayer pipes with functionalized polyolefins and metal barrier layers but they are silent regarding cross linked polyethylene as the outer layer.
46. Hansen et al. teach it is known in the pipe art to use cross linked polyethylene as the outer layer (claim 17).
47. In regards to claim 127 as the prior art teaches the same inner and outer layers as the instantly claimed invention the article of the prior art must necessarily have the same physical, chemical and mechanical properties.
48. One of ordinary skill in the art at the time of the invention would have been motivated to modify the invention of Negri, Guest and Schmitz et al. with that of Hansen because the invention of Hansen offers a safe and reliable tubing that can carry water at high temperatures without degradation (paragraph 0002).

#### ***Response to Arguments***

49. It is noted that all foreign priority documents have now been received.
50. Examiner noted that the double patenting rejections will be held in abeyance for the time being.

51. Applicant's arguments with respect to claims 74, 76-81, 90-124 and 127 have been considered but are moot in view of the new ground(s) of rejection.

52. Examiner notes that while the Guest, Schmitz, Murase, Babb, Matteodo, Bush, Kawahara, Alexandre and Colburn references do not disclose all the features of the present claimed invention, they are used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, and in combination with the primary reference, discloses the presently claimed invention. If the secondary reference contained all the features of the present claimed invention, it would be identical to the present claimed invention, and there would be no need for secondary references.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIK KASHNIKOW whose telephone number is (571)270-3475. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (Second Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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